

REMARKS

Initially, the applicant would like to thank the Examiner in charge of the application, Examiner Quynh-Nhu Hoang Vu, for the courteous and helpful interview extended to applicant's undersigned representative on May 19, 2008.

During the interview the propriety of the prior art rejection as it applies, particularly, to the patentability of claim 1, and possible amendments to the claims to overcome the prior art rejection were discussed. The remarks below reflect the position of the undersigned representative taken during the interview.

Claims 9 and 12 have been amended to limit the method of the invention for sterilizing and disinfecting a body tissue using iontophoresis to one in which a drug solution which contacts an oral lesion in body tissue is retained and supplied by a positive electrode section in the form of a brush and in which a second solution which contacts a body tissue in the vicinity of the lesion is retained and supplied by a negative electrode section in the form of a sponge, and to further limit the drug solution to a solution containing an amphoteric surface active agent as a main ingredient, and the second solution to a sodium chloride solution having a concentration of 1 to 3%.

The limitations that the drug solution is retained and supplied by a positive electrode section in the form of a brush and the second solution is retained and supplied by a negative electrode section in the form of a sponge are supported in the specification, inter alia, by the description in the paragraph bridging pages 9 and 10.

The limitation that the second solution is a sodium chloride solution having a concentration of 1 to 3% is supported in the specification, inter alia, by the description in the second full paragraph on page 12.

Claims 9 and 12 are rejected in the Action of March 13, 2008, under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Jensen, U.S. Patent Application Publication No. 2003/0044755, Keusch et al., U.S. Patent No. 6,635,045 ("Keusch") and Okabe (JP 08-164212).

Applicant submits, first, that a person of ordinary skill in the art would not have been motivated to modify AAPA according to the teachings of Jensen because Jensen does not relate to a method for sterilizing and disinfecting a body tissue using iontophoresis and does not use a drug solution or a liquid (second) solution.

Jensen describes a device, where the anode comes into contact with the surface of the tooth, and the cathode comes into contact

with the mucous membrane in the oral cavity and which is capable of discriminating the state of the dental pulp by making a current flow between these. In Jensen, a device that diagnoses the state of the dental pulp by passing electricity through the dental pulp without using a drug solution or liquid solution is disclosed. The device does not sterilize and/or disinfect the dental pulp, it analyzes the dental pulp.

In the Action, the Office states that the device of Jensen inherently includes a drug solution "to treat for any kind of disease state of teeth" (citing paragraph [0031] of Jensen. However, the device of Jensen does not treat a disease state of teeth or any other dental condition - it determines the disease state or other condition.

If the Office applies Jensen and the other cited prior art to the claims as amended, it is respectfully requested to explain the support in Jensen or other prior art for its position that the use of a drug solution and a second solution is inherent in the diagnostic system and method of Jensen.

In view of the Office's mischaracterization of the teachings of Jensen, the proposed modification of AAPA is improper and the references cannot be properly combined to support a case of prima facie obviousness of the claims under 35 U.S.C. § 103(a).

Second, notwithstanding that Jensen cannot be properly combined with AAPA, the art does not disclose or suggest or otherwise render obvious a method for sterilizing and disinfecting a body tissue using iontophoresis as recited in claims 9 and 12.

According to the invention recited in claims 9 and 12, it is possible to treat an affected part, including deep layer parts that are difficult to treat, by supplying a drug solution and a liquid solution to the part. In the method of the present invention, the drug solution and liquid solution are held in retainers (brush and sponge) attached to the tip of the respective electrodes, and since supplying them is facilitated, there can be a large reduction in the treatment time.

In addition, an amphoteric surface active agent is used for the active ingredient in the drug solution. By using an amphoteric surface active agent, it is possible to carry out treatment safely with few side effects.

Furthermore, a 1 to 3% aqueous solution of sodium chloride is used for the liquid solution. By using a high concentration of sodium chloride, ion migration for the amphoteric surface active agent may be carried out efficiently. In addition, sodium chloride is a principal component of the salts in the body fluids in the body and is the safest solution.

The invention of the present application is compared and contrasted below with the cited references.

Jensen, as explained above, describes a device where the anode comes into contact with the surface of a tooth, and the cathode comes into contact with a mucous membrane in the oral cavity and which is capable of discriminating the state of the dental pulp by making a current flow between these. In Jensen, a device that analyzes the state of the dental pulp by passing electricity through the dental pulp without using a drug solution or liquid solution is disclosed.

Keusch describes a reservoir electrode for an iontophoresis transfer device provided with an electrode and a reservoir created from a material with high water absorbability, which includes an alkali metal salt with a substantially uniform concentration. In Keusch, there is no description of maintaining a surface active agent on the anode and making ions migrate. In addition, in Keusch, this alkali metal salt has a low concentration, and there is no description of using or suggestion to use a 1 to 3% solution of sodium chloride.

Okabe describes an iontophoresis dermal treatment agent for a percutaneous drug that causes ion migration of a cationic surface active agent and a method therefore. In Okabe, there is no

description of a method for disinfection and antisepsis that causes ion migration of an amphoteric surface active agent.

The cited references alone and in combination with each other and with AAPA fail to disclose or suggest (1) retaining and supplying of an amphoteric drug solution and solution liquid, (2) causing ion migration of the amphoteric surface active agent and (3) otherwise providing the method for disinfection and antisepsis of the invention. Additionally, the operation and effect of the method of the present invention as recited in claims 9 and 12 cannot be fairly predicted based on these references.

The 35 U.S.C. § rejection made in the Action of March 13, 2008, is not believed to be applicable to claims 9 and 12 as amended. Removal of the rejection and a notice of allowability of claims 9 and 12 are believed to be in order and are respectfully solicited.

The foregoing is believed to be a complete and proper response to the Office Action dated March 13, 2008, and is believed to place this application in condition for allowance. If, however, minor issues remain that can be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

PATENT APPLN. NO. 10/800,914  
SUBMISSION UNDER 37 C.F.R. § 1.114

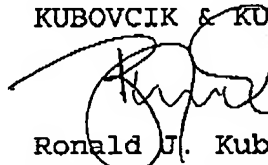
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In the event that this paper is not considered to be timely filed, applicant hereby petitions for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,

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